

# Capital Facilities



## Mission

To provide Fairfax County with quality, cost effective buildings and infrastructures in a safe and timely manner.

## Focus

Capital Facilities' purpose is to complete the construction of publicly funded projects. Specifically, Capital Facilities provides the design, land acquisition and construction services for governmental facility projects such as libraries, courts, police and fire stations. The agency supports user agencies during the site selection and feasibility study phases and coordinates with the user agencies throughout the project implementation process. The agency is also responsible for the implementation of infrastructure improvement projects, such as roads, sanitary sewer extensions, sanitary pump stations, pollution control plant expansions/upgrades, walkways, bus stop shelter installation and the land acquisition and construction management of stormwater drainage projects. Through the completion of these projects, Capital Facilities contributes to the health, safety and welfare of all who reside in, work in and visit Fairfax County.

One of the strengths of Capital Facilities is its technical and operational capabilities and, as such, its operations have continued to be recognized for technical excellence. To improve upon this excellence, Capital Facilities has focused many of its efforts over the last five years on improving three major aspects of the agency, including work culture, environmental stewardship, and relationships with the community.

Capital Facilities has several initiatives, including, but not limited to, the improvement of project delivery and customer service. As part of this initiative, the agency recently implemented new performance measures. The implementation of the new performance measures utilized a team-based approach, getting input from staff throughout the different business areas as the need for new performance measures was borne out of an interest in improving the tools used to evaluate the business areas and their achievement of their missions. To help track and report the new performance measures, a new Capital Project Information System was designed, and developed by in-house staff in FY 2006. In FY 2007 the Capital Project Information System was implemented, allowing better project tracking and monitoring by project managers and agency directors.

### THINKING STRATEGICALLY



Strategic issues for the department include:

- Improving relationships with customers by working collaboratively and sharing information in a more timely fashion;
- Implementing tactical information technology initiatives to improve business operations; and
- Developing methods to allow the agency to accomplish its mission more efficiently.



Funding for capital construction projects administered by Capital Facilities is provided from bond funds, the General Fund and grant funds and is affected by the economic climate and the availability of funds from the Commonwealth of Virginia and the federal government.

## Capital Facilities

### New Initiatives and Recent Accomplishments in Support of the Fairfax County Vision

 <b>Building Livable Spaces</b>	<b>Recent Success</b>	<b>FY 2008 Initiative</b>
Completed the construction of 96 capital projects, including the Pohick Sewer Trunk Line Upgrade, Fairfax Center Fire Station, and Clifton Road Improvements.	✓	
The Noman Cole Wastewater Pollution Control Plant Upgrade and Expansion; Cub Run ReCenter; and Pohick Sewer Trunk Line Upgrade projects received "Project of the Year" awards from the Virginia, Maryland and District of Columbia Chapter of the American Public Works Association (APWA). The Cub Run ReCenter also received a Community Appearance Award in 2006.	✓	
Evaluate future projects using implementation strategies that may include, but are not limited to, Design/Build, Public-Private Transportation Act (PPTA), Public-Private Education Act (PPEA), and "turn-key" Project Managers, which are managers who are in charge of a project from start to finish.		✓
Refine and implement pre-qualified competitive bid procedures to improve timely delivery, quality, and cost effectiveness.		✓
 <b>Connecting People and Places</b>	<b>Recent Success</b>	<b>FY 2008 Initiative</b>
Continue design work, land acquisition and construction of projects included in the Board of Supervisors Four-Year Transportation Initiative. The Department of Public Works and Environmental Services (DPWES) has already completed seven projects and is managing approximately 17 projects as part of this major transportation initiative.	✓	✓
Completed 15 sidewalk/trail projects, the installation of eight bus shelters countywide, and the Reston Center Transit Station. Several more bus shelter sites will be under construction in FY 2008.	✓	✓
Continue to enhance outreach efforts to inform residents and vendors about proposed and ongoing projects through the County Web site. New information added to the Web site includes the publication of a quarterly status report to inform residents about ongoing capital construction projects. In FY 2007, a Geographic Information System (GIS) map of capital project locations will assist residents in finding information for ongoing projects.	✓	✓
Complete surveys to monitor progress, including a user survey to measure how satisfied building users are with completed buildings, such as fire stations, libraries and district police stations. In FY 2007 and FY 2008, new surveys of customers will be developed and administered to determine the level of customer satisfaction with completed capital projects.	✓	✓

## Capital Facilities

 <b>Practicing Environmental Stewardship</b>	<b>Recent Success</b>	<b>FY 2008 Initiative</b>
<p>Capital Facilities is instrumental in the planning, design and construction management of sanitary sewer improvement projects that provide residents the ability to switch from septic fields to County sewer. Due to the failure of many private septic fields, corrective measures often become necessary. To address this problem, the Columbia Pike and Falls Hill Subdivision projects have made sanitary sewer available to residents with failing septic systems in FY 2006.</p>	<input checked="" type="checkbox"/>	
<p>Continue the development of a Green Building program specifically tailored to the needs of Fairfax County that is practical and economical while maintaining the environmental intent of low impact development and Leadership in Energy and Environmental Design (LEED). The Fairfax Center Fire Station is now complete which is the County's first Green Building. The Crosspointe Fire Station is currently under construction and is also designed for LEED certification as a Green Building.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 <b>Exercising Corporate Stewardship</b>	<b>Recent Success</b>	<b>FY 2008 Initiative</b>
<p>Implemented new internal performance measures for individual divisions and external performance measures for budgetary and business-wide use.</p>	<input checked="" type="checkbox"/>	
<p>The Capital Facilities' Land Acquisition Process Redesign Team (LAPRT) reviews all land acquisition processes required for the implementation of capital projects. The LAPRT will identify ways to streamline and expedite the land acquisition process in an effort to improve the overall delivery of capital projects.</p>		<input checked="" type="checkbox"/>
<p>Implement a comprehensive workforce plan for key disciplines in DPWES. Components of the workforce plan that will be evaluated include competencies, succession, knowledge management, recruitment, hiring, retention, staff development, compensation, benefits and workforce support.</p>		<input checked="" type="checkbox"/>
<p>Develop and implement a Web-based reporting portal for the Capital Project Information System, providing better access to Capital Project information, budgets, expenditures and statistics.</p>		<input checked="" type="checkbox"/>

# Capital Facilities

## Budget and Staff Resources

Agency Summary					
Category	FY 2006 Actual	FY 2007 Adopted Budget Plan	FY 2007 Revised Budget Plan	FY 2008 Advertised Budget Plan	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	135/ 135	139/ 139	141/ 141	142/ 142	141/ 141
Expenditures:					
Personnel Services	\$7,944,714	\$9,403,418	\$9,752,034	\$10,084,734	\$10,084,734
Operating Expenses	6,712,172	6,680,570	7,163,280	8,003,067	8,003,067
Capital Equipment	31,676	0	24,000	0	0
<b>Subtotal</b>	<b>\$14,688,562</b>	<b>\$16,083,988</b>	<b>\$16,939,314</b>	<b>\$18,087,801</b>	<b>\$18,087,801</b>
Less:					
Recovered Costs	(\$5,500,269)	(\$6,459,539)	(\$6,816,658)	(\$6,568,655)	(\$6,568,655)
<b>Total Expenditures</b>	<b>\$9,188,293</b>	<b>\$9,624,449</b>	<b>\$10,122,656</b>	<b>\$11,519,146</b>	<b>\$11,519,146</b>
Income:					
Land Acquisition					
Charges for Service	\$31	\$1,100	\$0	\$0	\$0
<b>Total Income</b>	<b>\$31</b>	<b>\$1,100</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Net Cost to the County</b>	<b>\$9,188,262</b>	<b>\$9,623,349</b>	<b>\$10,122,656</b>	<b>\$11,519,146</b>	<b>\$11,519,146</b>

## FY 2008 Funding Adjustments

The following funding adjustments from the FY 2007 Revised Budget Plan are necessary to support the FY 2008 program:

- ◆ **Employee Compensation** **\$430,951**  
 An increase of \$430,951 in Personnel Services associated with salary adjustments necessary to support the County's compensation program.
- ◆ **Personnel Services Reduction** **(\$98,251)**  
 A decrease of \$98,251 in Personnel Services as part of an across-the-board reduction to meet budget limitations based on available revenues as a result of a flattening residential real estate market.
- ◆ **Streetlight Operation** **\$1,269,000**  
 An increase of \$1,269,000, or 20.8 percent over the agency's current streetlight operating and maintenance budget of \$6,091,000 is required due to a projected 16 percent increase in electricity rates and an increase in streetlight inventory. Currently there are 52,914 County streetlights with approximately 1,155 new streetlights scheduled to be added due to new resident petition program streetlights, developer project streetlights, as well as other interstate and revitalization project streetlights.
- ◆ **Contracted Project Engineering Support** **\$50,000**  
 An increase of \$50,000 to support the outsourcing of supplemental construction administration and inspection services for various projects such as the Public Safety and Transportation Operations Center (PSTOC), South Run REC Center, Dolley Madison Library, Thomas Jefferson Library, and Providence Community Center.
- ◆ **Intergovernmental Charges** **\$3,497**  
 An increase of \$3,497 in Department of Vehicle Services charges based on anticipated charges for fuel, vehicle replacement and maintenance costs.

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- ◆ **Carryover Adjustments** **(\$506,710)**  
A decrease of \$506,710, including \$24,000 in Capital Equipment and \$482,710 in Operating Expenses due the carryover of one-time expenses as part of the *FY 2006 Carryover Review*.
- ◆ **Recovered Costs** **\$248,003**  
A net decrease of \$248,003 including an increase of \$11,997 due to projected salary and operating requirements offset by a decrease of \$260,000 in Recovered Costs due to one-time Carryover funding of recoverable contracted construction support.

## Board of Supervisors' Adjustments

*The following funding adjustments reflect all changes to the FY 2008 Advertised Budget Plan, as approved by the Board of Supervisors on April 30, 2007:*

- ◆ The Board of Supervisors made no adjustments to this agency.

## Changes to FY 2007 Adopted Budget Plan

*The following funding adjustments reflect all approved changes in the FY 2007 Revised Budget Plan since passage of the FY 2007 Adopted Budget Plan. Included are all adjustments made as part of the FY 2006 Carryover Review and all other approved changes through December 31, 2006:*

- ◆ **Personnel Services Adjustments** **\$251,497**  
An administrative adjustment of \$348,616 was included during the *FY 2006 Carryover Review* for the funding associated with positions deployed throughout FY 2007 to assist with additional workload associated with the planning, design and construction phase of the Public Safety and Transportation Operations Center (PSTOC), various public safety and human service facilities, and numerous transportation and pedestrian improvements. This funding is offset by \$97,119 in Recovered Costs which will be charged out to individual projects.
- ◆ **Carryover Adjustments** **\$506,710**  
As part of the *FY 2006 Carryover Review*, the Board of Supervisors approved encumbered funding of \$282,710 for Operating Expenses. The Board of Supervisors also approved \$224,000 in unencumbered carryover including \$24,000 in Capital Equipment to purchase safety equipment and \$200,000 to fund the shortfall in the streetlights program due to the unexpected rise in the fuel factor charge.
- ◆ **Contracted Construction Support** **(\$260,000)**  
As part of the *FY 2006 Carryover Review* there was an increase of \$260,000 in Recovered Costs due to contracted construction support for two consultant project engineers in order to manage the Thomas Jefferson Library, Dolley Madison Library, Mt. Vernon Health Center, and Wolf Trap Fire Station. The increase is a result of recoverable Operating Expenses being charged out to the individual capital projects.
- ◆ **Position Redirections** **\$0**  
In FY 2007, the County Executive approved the redirection of 3/3.0 SYE positions from Fund 401, Sewer Operation and Maintenance to establish 2/2.0 SYE Engineer III positions in the Construction Management Division to oversee the implementation of Wastewater and Solid Waste projects, including Sanitary improvements, pump stations, sewer and landfill projects; and 1/1.0 SYE Engineer III position from Fund 401, Sewer Operation and Maintenance for the Building and Design Branch within the Planning and Design Division to aid with project management responsibilities for new projects occurring throughout the County, including the Jennings Judicial Center expansion.

## Capital Facilities

The following funding adjustments reflect all approved changes to the FY 2007 Revised Budget Plan from January 1, 2007 through April 23, 2007. Included are all adjustments made as part of the FY 2007 Third Quarter Review:

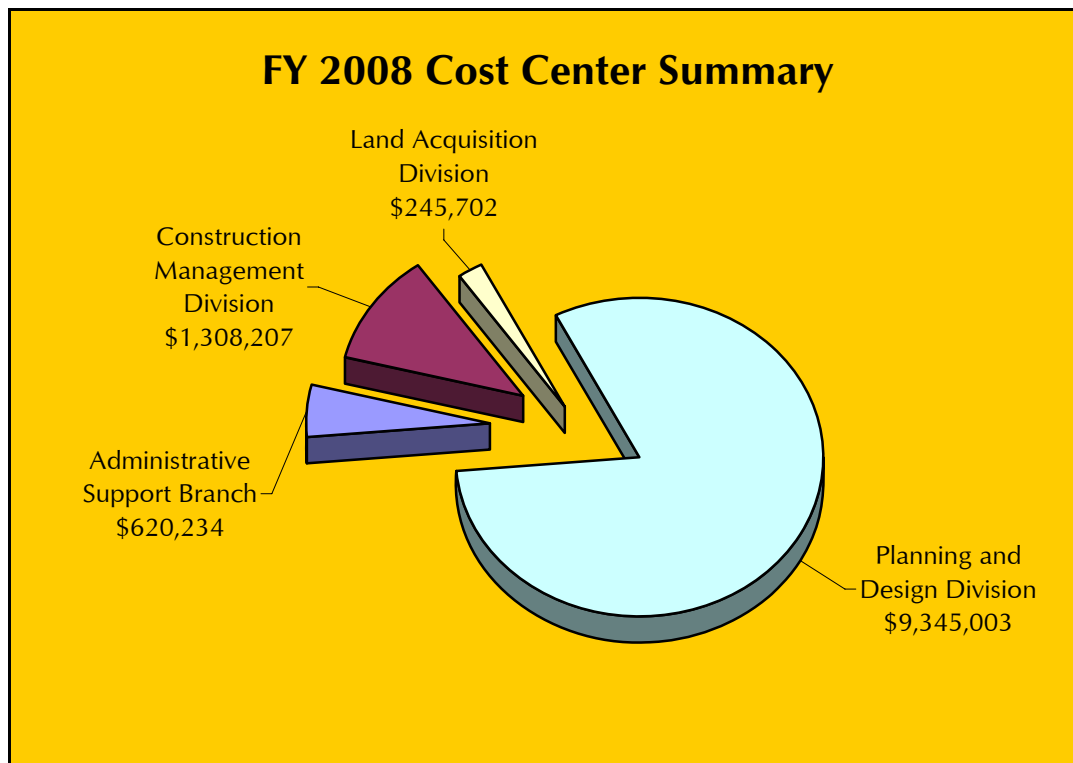
### ◆ Position Redirection

**\$0**

The County Executive approved the redirection of 1/1.0 SYE Accountant I position from the Administrative Support Branch to create 1/1.0 SYE Accountant I position in Stormwater Management to more properly align financial management responsibilities with the needs of DPWES.

## Cost Centers

Capital Facilities has four cost centers including Administrative Support, Construction Management, Land Acquisition and Planning and Design.



### Administrative Support Branch



Funding Summary					
Category	FY 2006 Actual	FY 2007 Adopted Budget Plan	FY 2007 Revised Budget Plan	FY 2008 Advertised Budget Plan	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	8/ 8	8/ 8	8/ 8	9/ 9	8/ 8
<b>Total Expenditures</b>	<b>\$651,883</b>	<b>\$603,218</b>	<b>\$607,218</b>	<b>\$620,234</b>	<b>\$620,234</b>

# Capital Facilities

Position Summary					
1	Management Analyst IV	1	Programmer Analyst III	1	Administrative Assistant IV
2	Accountants I	2	Network/Telecom Analysts II	1	Management Analyst II
<b>TOTAL POSITIONS</b>					
<b>8 Positions / 8.0 Staff Years</b>					

## Goal

To provide personnel, procurement, information technology, budget and financial support to the cost centers within Capital Facilities to ensure they have adequate resources available in order to accomplish their goals.

## Planning and Design Division

Funding Summary					
Category	FY 2006 Actual	FY 2007 Adopted Budget Plan	FY 2007 Revised Budget Plan	FY 2008 Advertised Budget Plan	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	51/ 51	52/ 52	52/ 52	52/ 52	52/ 52
<b>Total Expenditures</b>	<b>\$7,626,289</b>	<b>\$7,776,585</b>	<b>\$8,231,113</b>	<b>\$9,345,003</b>	<b>\$9,345,003</b>

Position Summary					
1	Director	14	Engineers II	2	Administrative Assistants III
2	Project Coordinators	6	Engineering Technicians III	1	Administrative Assistant II
5	Engineers IV	1	Engineering Technician II		
20	Engineers III				
<b>TOTAL POSITIONS</b>					
<b>52 Positions / 52.0 Staff Years</b>					

## Goal

To provide essential professional engineering design and project management services in support of Capital Improvement Program (CIP) implementation including: sanitary sewers, pump stations, commuter parking lots, building projects including fire stations, libraries, police stations, parking structures and other County facilities as well as commuter rail facilities, neighborhood improvement projects, commercial revitalization projects, roads, trails, sidewalks, developer defaults and streetlights.

## Construction Management Division

Funding Summary					
Category	FY 2006 Actual	FY 2007 Adopted Budget Plan	FY 2007 Revised Budget Plan	FY 2008 Advertised Budget Plan	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	63/ 63	65/ 65	67/ 67	67/ 67	67/ 67
<b>Total Expenditures</b>	<b>\$980,875</b>	<b>\$997,953</b>	<b>\$1,037,632</b>	<b>\$1,308,207</b>	<b>\$1,308,207</b>

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Position Summary					
1	Director	4	Engineering Technicians II	3	Senior Survey Analysts/Coordinators
1	Management Analyst II	2	Supervising Engineering Inspectors	5	Survey Party Chiefs/Analysts
3	Engineers IV	7	Senior Engineering Inspectors	6	Survey Instrument Technicians
14	Engineers III	1	County Surveyor	1	Administrative Assistant III
12	Engineers II	1	Deputy County Surveyor	2	Administrative Assistants II
3	Engineering Technicians III	1	Chief of Survey Parties		
<b>TOTAL POSITIONS</b>					
<b>67 Positions / 67.0 Staff Years</b>					

## Goal

To provide contract administration, inspections and land surveys for all assigned County capital construction projects, which will enhance governmental services to County residents (excluding School Board Construction).

## Land Acquisition Division

Funding Summary					
Category	FY 2006 Actual	FY 2007 Adopted Budget Plan	FY 2007 Revised Budget Plan	FY 2008 Advertised Budget Plan	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	13/ 13	14/ 14	14/ 14	14/ 14	14/ 14
<b>Total Expenditures<sup>1</sup></b>	<b>(\$70,754)</b>	<b>\$246,693</b>	<b>\$246,693</b>	<b>\$245,702</b>	<b>\$245,702</b>

<sup>1</sup> During FY 2006, the Land Acquisition Division had more expenditures than anticipated and utilized funding from other divisions within the agency to cover the unanticipated costs.

Position Summary					
1	Director	1	Engineering Technician II	6	Right-of-Way Agents
3	Engineering Technicians III	1	Senior Right-of-Way Agent	1	Administrative Assistant III
1	Project Coordinator				
<b>TOTAL POSITIONS</b>					
<b>14 Positions / 14.0 Staff Years</b>					

## Goal

To acquire easements, dedications, rights-of-way and other fee purchases requested by Fairfax County agencies in order to keep capital construction projects on schedule.

## Key Performance Measures

### Objectives

- ◆ To monitor design and construction activities in order to maintain construction cost growth at no more than 5.0 percent.
- ◆ To perform Value Engineering (VE) studies in accordance with the adopted BOS policy in order to identify cost savings while meeting required performance, with Return on Investment (ROI) of at least 25:1.



# Capital Facilities

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2004 Actual	FY 2005 Actual	FY 2006 Estimate/Actual	FY 2007	FY 2008
<b>Output:</b>					
Projects completed	56	96	63 / 96	77	82
Projects completed with total cost over \$10,000,000	0	3	0 / 0	2	1
Projects completed with total cost over \$100,000 and under \$10,000,000	19	32	20 / 35	20	27
Projects completed with total cost under \$100,000	37	61	43 / 61	55	54
Projects completed on time	53	NA	60 / 66	52	56
Projects completed within budget	51	NA	60 / 81	64	68
Value Engineering studies completed/accepted cost savings	1 / \$168,572	4/\$4,085,039	2/\$900,000 / 1/\$593,800	3/\$1,723,000	3/\$1,500,000
<b>Efficiency:</b>					
Design costs as a percent of construction costs for projects with total cost over \$100,000 and under \$10,000,000	28.1%	16.2%	17.2% / 18.8%	18.0%	18.0%
Design costs as a percent of construction costs for projects with total cost under \$100,000	70.5%	34.2%	56.7% / 20.3%	56.7%	51.0%
Construction contract administration costs as a percent of construction costs for projects with total cost over \$100,000 and under \$10,000,000	12.4%	11.9%	9.2% / 7.2%	9.2%	10.0%
Construction contract administration costs as a percent of construction costs for projects with total cost under \$100,000	13.5%	13.0%	13.2% / 18.8%	13.2%	14.2%
<b>Efficiency:</b>					
Staff cost per land acquisition instrument acquired for projects with total cost over \$100,000 and under \$10,000,000	\$1,484	\$3,928	\$1,698 / \$2,153	\$2,256	\$2,153
Staff cost per land acquisition instrument acquired for projects with total cost under \$100,000	\$3,815	\$3,869	\$2,809 / \$2,946	\$3,074	\$2,946
Cost per Value Engineering study	\$30,204	\$29,025	\$27,753 / \$39,380	\$27,753	\$40,000
<b>Outcome:</b>					
Contract cost growth (1)	4.4%	4.7%	3.6% / 4.5%	3.6%	3.8%
Return on investment ratio for Value Engineering studies	6:1	35:1	25:1 / 15:1	25:1	25:1

(1) Cost Growth = (Final Construction Contract Cost – Initial Construction Contract Cost) / Initial Construction Contract Cost) \* 100

# Capital Facilities

## Performance Measurement Results

During 2006, Capital Facilities worked to implement the new performance measures. New software programs were developed and executed in order to effectively collect, store and manage data elements required by the new performance measures.

Value Engineering (VE) studies involve a thorough, intensive review of project plans by a group of individuals with engineering expertise in various disciplines. The review identifies the functions of products, establishes the worth of those functions, and generates alternatives through the use of creative thinking. VE studies are performed at the preliminary design stage where the design is 35 percent complete and studies are conducted by using a combination of in-house staff and consultants depending on the type and size of the project. After VE study recommendations are evaluated by project managers and impacted agencies, they are reviewed by the Director of DPWES, who ultimately decides which recommendations will be accepted. The amount of VE cost savings and return on investment ratios vary from one fiscal year to another and are somewhat dependent on both the type and size of projects reviewed. In FY 2006, one VE study was completed on projects with a construction estimate totaling \$10,690,000, identifying \$742,250 in savings with \$593,800 in accepted savings.

Design costs include in-house design costs and consultant design costs, as well as the cost of survey work during design. Construction contract administration costs include the cost for in-house staff to administer construction contracts, as well as the cost of survey work during construction. The cost of construction includes the costs for contracted construction, in-house construction, and utility connections/relocations. The efficiency measure for staff costs per land acquisition instrument acquired is calculated by dividing land acquisition staff costs by the number of instruments, such as easements, acquired.

The efficiency measures are further broken out by the size of the completed projects. It is substantially more efficient to design and administer construction for larger projects and the staff cost per instrument is also less for larger projects. The three category breakout clearly shows the economy of scale achieved with larger projects.

During FY 2006, 96 projects were completed and 61 of these projects cost less than \$100,000, showing a similar volume of smaller projects as in previous years. Typically, smaller projects result in increased design and administration costs as a percentage of total project costs as compared to larger, more expensive projects which tend to be more cost-efficient. However, since there were no projects with total costs over \$10 million completed in FY 2006 versus three completed in FY 2005, the design and contract administration costs as a percent of costs efficiency indicator increases from FY 2005 to FY 2006 despite the similar number of smaller projects, as they are offset by the cost-effectiveness of the larger, more costly projects. In addition, design costs as a percent of construction costs for projects with total cost under \$100,000 was 20.3 percent in FY 2006, which was much lower than the FY 2006 estimate of 56.7 percent. This is due to a large number of unexpected simple projects. The agency does not expect a large number of simple projects in FY 2007 and FY 2008.

The agency continues to maintain cost growth of less than 5.0 percent. The use of abbreviated designs has been expanded in order to improve project delivery times. Using abbreviated designs may result in increases in cost growth, but current cost growth rates remain below the 5.0 percent benchmark.

In FY 2006, the agency completed more projects than anticipated due to the number of smaller projects. The expanded use of abbreviated designs helped to improve the number of smaller completed projects. Past process re-designs efforts and other initiatives within Capital Facilities helped to increase the number of completed projects overall.